Electricity on the Farm

A MONTHLY MAGAZINE FOR THE UP-TO-DATE RURAL FAMILY

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JUNE
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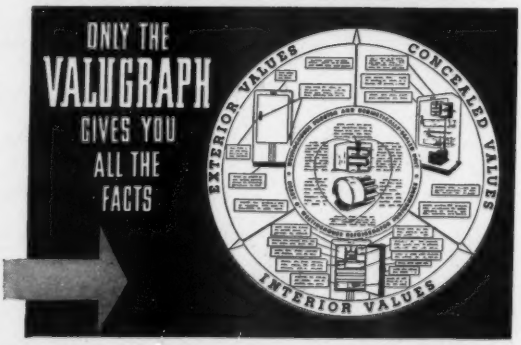

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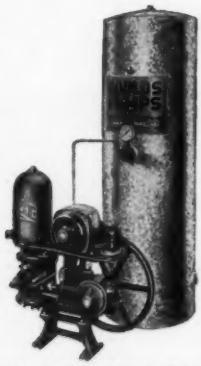

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June, 1936

Electricity on the Farm

Vol. 9, No. 6

EDITORIAL

CUTTING COSTS IN HAY STORAGE

Chopping hay and delivering it by blower into the barn has proven to be a practice which has several marked advantages over the older methods of storing hay.

Chopped hay requires but one-half the space of whole hay; it is readily delivered into the barn by blower, eliminating manual as well as animal labor; there is less waste by animals, for coarse, stemmy hay is chopped and mixed with the more palatable portion and a greater part of it therefore eaten.

Where chopping and blowing is done with electric power, the cost is very reasonable. The current consumption per ton may vary from 2 to 2½ K.W.H.

As to the speed in processing the hay, a 7½ horsepower outfit chopped and delivered into the barn 3.49 tons per hour in tests conducted in Indiana, while a 5 horsepower set handled 2.54 tons per hour.

As in silo filling, the hay chopper is highly flexible in operation; and because of the ease in starting the motor, a large crew is not required, such as would be necessary to keep a machine operating continually.

The saving in labor is the most attractive feature of this modern method of handling hay. Formerly, hired help often took the profit out of hay.

In an article in this issue, entitled "Electric Power Puts Hay in the Barn," T. E. Hienton reviews some interesting experiments at the Purdue University dairy farm. It is well worth careful reading.

FRED SHEPPERD.

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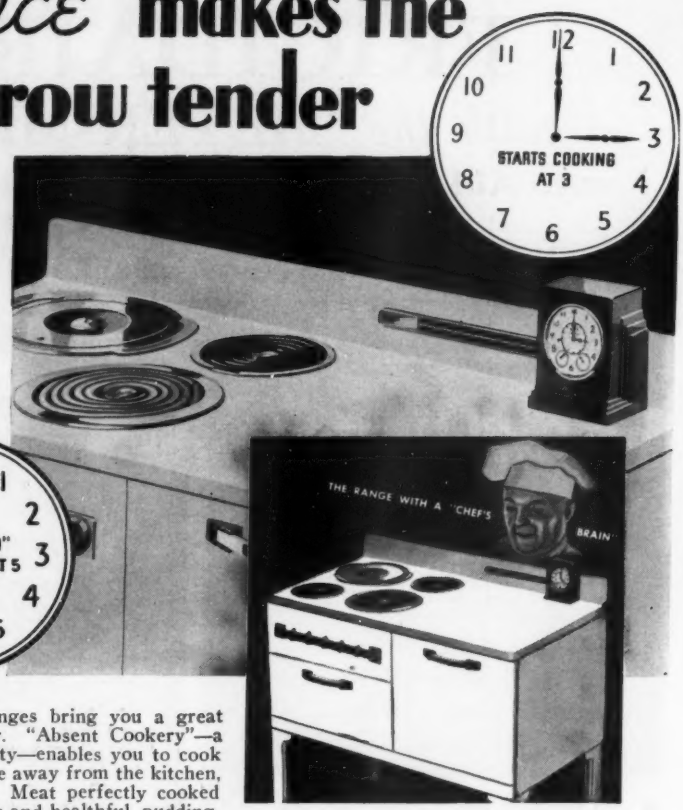

THE new Hotpoint Ranges bring you a great new gift of electricity. "Absent Cookery"—a modern miracle of electricity—enables you to cook an entire meal while you are away from the kitchen, and results are wonderful. Meat perfectly cooked and tender, vegetables tasty and healthful, pudding, pie, rolls, etc., beautifully browned and deliciously flavored.

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ELECTRIC RANGES AND WATER HEATERS

PROFITS from PORTABLE POWER

By J. C. SCOTT

MR. LUCIEN ROTH, dairyman who lives near Marysville, Washington, is getting splendid results in feeding 30 head or more of dairy cattle, by cutting and grinding his oat and barley crop, straw, grain and all, instead of threshing it. He is getting more use of his grain crop this way, because the cows eat all the straw, which he believes contains a great deal of valuable nutriment for dairy cows.

Mr. Roth allows the grain crop that is to be chopped and ground to get just as ripe as though it were to be threshed. After it is thoroughly cured in the field, he hauls it to the barn, but instead of hoisting it into the mow, he runs it through a 13-inch silage cutter driven by a portable electric motor. This operation of cutting and blowing the hay into the loft actually saves five men in the crew for harvesting this crop, in comparison to the old method he used.

But he does not feed it in this form. Instead, he grinds it with a hammer mill as he needs it throughout the winter. The hammer mill, driven by the utility motor, is in the loft of the barn. In this way the oat crop is made up into a mash resembling alfalfa meal.

Mr. Roth offers this warning. "I want to be careful about recommending to farmers that they cut their feed and blow it into the barn, because I have had neighbors who tried this and had their feed spoiled by heating. I like to cut my barley and oat crop, but I am always careful to see that it goes through a sweat in the shock. If it does not go through a sweat in the shock, it will sweat in the barn and do considerable damage as a result.

"In silo filling time," Mr. Roth tells us, "I appreciate the electric motor most. While the cost of driving a 13-in. silage cutter is a little less with an electric motor than with the gas engine, yet the saving in fuel cost is only a small part of the real saving in operating the motor. The saving is in the wear and tear on machinery and the saving in labor. If an electric motor is properly cared for, there should be very little wear on it.

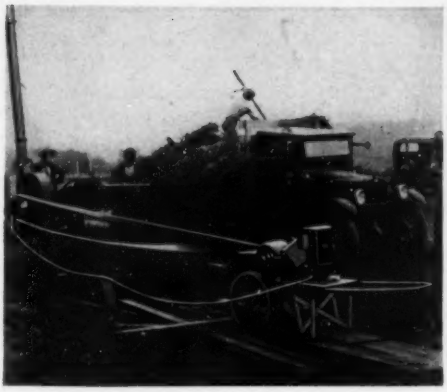
"The expense for the large crews we used to have was heavy. The silage was put up quickly, and did not get a chance to settle in the silo, until after all the crop was cut and the machinery moved away. With our electric motor, we put up all our silage, as well as our hay crop, with a two-man crew,—that is, only one man beside myself. By slower filling we get much more into our silo.

"I also got far better results from the cutter and electric motor after putting a large pulley on the cutter, and reducing its speed."

Another careful dairyman who uses a 5 H.P. motor for chopping hay and blowing it into the mow is Mr. W. B. Cook, of Arlington, Washington.

"I like the chopped oat hay very much better," says he. "You can get more feed into the barn if your beams are strong enough to support the extra weight. Here is another thing I would hardly believe,—mice do not bother grain stored this way. Apparently the cut feed does not invite burrowing, for we have no trouble from rats and mice. In the past they have done considerable damage. Chopping oat hay and blowing it into the mow is really an easy way to harvest it, and the stock eat it with very little waste."

Mr. Cook also fills silo with his portable 5 H.P. motor at a power cost of only 2½ cents a ton. Here is what he says about it. "The electric motor, I find, is one of the most satisfactory pieces



Above: On the Roth farm near Marysville, Wash., the oat and barley crops are run through a 13-inch silage cutter, and then blown into the loft.

Below: Portable irrigation outfit near Salem, Oregon.

"The use of a farm electric motor to drive an irrigation pump will keep the pasture green and growing during the dry summer seasons."

of machinery on the ranch. I put up 160 tons of silage, plus cutting 12 tons of oat hay and 15 tons of straw, at a cost of $5.00 for power. You can actually operate a 13-in. silage cutter with a 5 H.P. electric motor more easily than you can a 10-in. cutter. Of course this outfit makes it possible to put up the silage without hiring extra help."

This attitude is supported by Mr. Heg of Snohomish County who says, "At first, I was afraid of the 5 H.P. motor for a 13-in. cutter, but experience has proved that this is an ideal set up if properly managed. In fact a 5 H.P. motor will operate a 13-in. cutter more easily and with better results than a 10-in. cutter. For a 30 foot lift, the speed of the cutter should be from 400 to 425 R.P.M."

Near Centralia, Washington, a 5 H.P. motor is helping another dairyman provide good feed for his herd. This is Mr. R. C. Ticknor who says, "We have a small feed grinder and mixer which we have run with a 5 H.P. motor for many years. With it we grind and mix all the grain feed which we grow on the farm. This does away with a lot of handling and trucking and makes a very welcome saving in expenses.

"The motor also helps feed the dairy herd by pumping for irrigation. Last year we tried it on our mangels and grew 75 tons of beets on a plot of ground where we had never grown over 50 tons before. Those we did not irrigate were badly hit by dry weather and produced very little. An irrigation system is good insurance against drought whenever a man can get enough water from a well or stream.

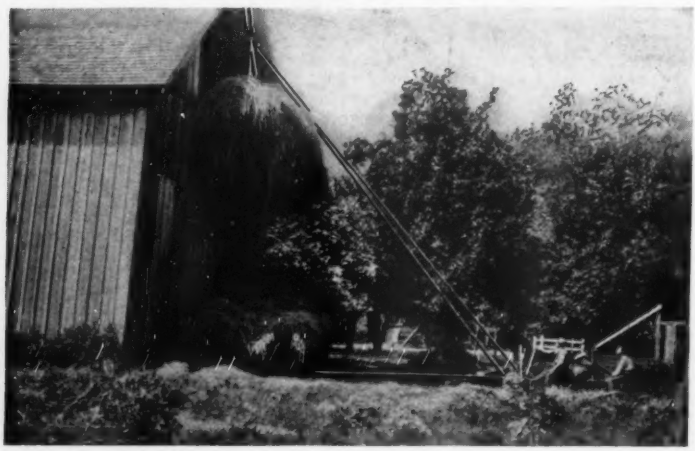
"Our next use for the electric motor will be to irrigate the pasture. Pasture is the cheapest feed a dairyman can have. If he has good milk cows, there is no other way he can reduce his cost of production as easily as to keep a good pasture. The only way of keeping a good pasture during the dry summer months, so far as I know, is to irrigate it."

The experiences of many dairy farmers, as well as the different experiments at the Western Washington Experiment Station, Puyallup, have proved conclusively that the use of a farm electric motor to drive an irrigation pump, will keep the pasture green and growing during the dry summer seasons.

Mr. M. S. Grunder, Agronomist at the Western Washington Experiment Station reports, "We found that after June 30th, when many of our pastures become dry, the carrying capacity of the pasture was approximately three times greater with irrigation than without irrigation. Roughly, the irrigated pasture had a carrying capacity of 1½ to 2 cows per acre from June 30 to October 10, while the non-irrigated pasture by its side had a carrying capacity of ½ to ⅔ cow per acre for the same period. If pasture is prevented from becoming dry at any time during the growing season, which can be done by irrigation, we get 100 cow days per acre of extra pasture."

With regard to the cost of irrigating pasture, Mr. Grunder says, "We use the sprinkler system of irrigation, which takes considerably more power than the flooding system. The cost for power on the sprinkler system was $7.57 per acre, and the labor cost was $1.80 per acre, making a total cost of $9.37 for the season. In other words, we figure that 100 days of extra pasture costs slightly over 9 cents a day per cow.

"This can be materially reduced where the pasture is such that it can be flooded. However, we do not raise the water very high, as we have a stream running through our pasture. While we realize that pasture irrigation is impossible on many farms, yet there are hundreds of acres of good pastures, where the carrying capacity of each acre can be increased by 100 cow days each season, by installing an electric irrigation pumping outfit."



The electric motor makes it possible to hoist the crop into the mow with a reduced crew.

A 7.5 H.P. motor provided power for the 15-inch combination hay chopper and silage cutter at Purdue University barn.

ELECTRIC POWER PUTS HAY IN THE BARN

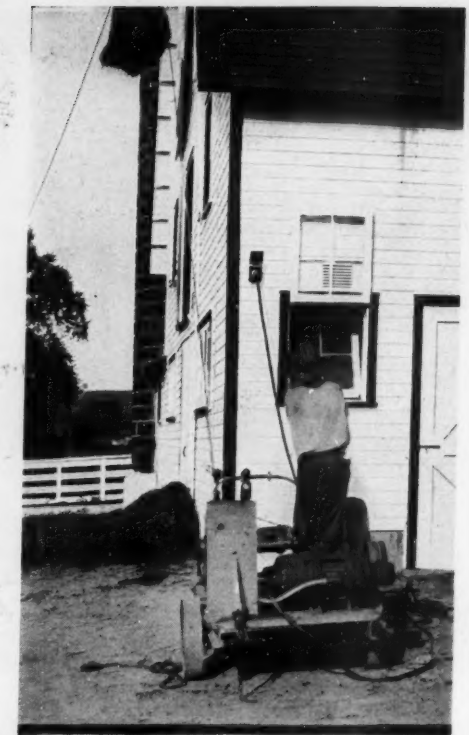
By T. E. HIENTON

ELECTRIC motors are replacing hired men in putting both long and chopped hay into the barns on farms throughout the United States. Electric power drives the hay chopper which cuts and blows the hay into the barn and practically eliminates the need for anyone in the mow. Hay hoists are also being driven by motors and the man and team, formerly required to lift hay into the barn, are no longer needed.

Hay is cut or chopped by the ordinary silage cutter or a special type with different rolls for feeding hay into the knives. This latter machine is used for both hay chopping and silage cutting and has certain advantages for handling hay not possessed by the ordinary silage cutter. Hay has a greater tendency to wrap itself around the feed rolls than do corn stalks but this is largely eliminated with the special rolls on the combination machine.

The power requirement of the combination machine varies with its size and rate of feeding. The size of machine, with 15-inch throat width, has sufficient capacity for the usual farm. It can be driven satisfactorily by a 5 or 7.5-horsepower electric motor as shown by the results of tests conducted by agricultural engineers of the Purdue Agricultural Experiment Station.

During 1933 and 1934, the alfalfa hay for the Purdue University dairy herd was chopped using 5 and 7.5-horsepower motors to drive a 15-inch machine. Records of energy used per ton and capacity of the machine when driven by either motor were obtained. The machine was fed as nearly as possible at a rate which would just require the rated horsepower of the motor but, in checking the final results, it was found that a slight average overload had been maintained in each case. A 1-inch length of cut was used with each motor and hay was elevated about 18 feet using a no-load cutter speed of 500 revolutions per minute. The capacity of the machine with the 7.5-horsepower motor was 3.49 tons per hour and with the 5-horsepower unit, 2.54 tons per hour. The energy used for chopping hay and blowing it into the barn was 2.1 kilowatt-hours per ton with the larger motor and 2.0 with the smaller one.



Selection of the size of motor to be used will depend upon several factors, including the size available if any, the amount of hay to be cut annually and the rules of the utility company serving the farm. If a farmer already owns a 5-horsepower motor for grinding feed, cutting silage, etc., there would be little to gain by exchanging motors for a larger one if the rules of his service company would permit him to do so. On farms where motors are not already available, it is the writer's opinion that a 7.5-horsepower motor would be more desirable if the amount of hay cut per year exceeds 100 tons. For farms where 50 to 75 tons of hay are cut per year, a 5-horsepower motor should provide adequate power.

Experience gained by Professor J. H. Hilton of the Dairy Department of Purdue University from four years' observations of alfalfa hay, which was chopped as it was brought from the field to the university dairy barn, indicates that it is not feasible to attempt to store hay with a larger percentage of moisture than that stored as uncut hay. This experience is similar to the results of the experiments conducted at the Wisconsin Agricultural Experiment Station in 1933 and 1934, which advised against storing chopped hay containing more moisture than ordinary uncut hay.

The investigations of the Wisconsin research men were carried out using six modern bins in each of which about a ton of alfalfa hay, cut one inch long, was stored. Hay of varying moisture content was stored in each bin and results are quoted from the report of this work: "The moisture was accurately measured in the laboratory, and in general the following relationship was found:

"Hay with 20 to 23 per cent of moisture is about the upper limit of moisture content that ordinary hay is put in the barn.

"Hay with 25 per cent moisture under practical farm conditions is occasionally stored in small quantities, but there is an element of risk when stored in large amounts. It is slightly tough.

"Hay with 30 per cent moisture all farmers would agree is too wet to store. This hay is very tough.

"Hay with 40 per cent moisture is only well wilted. . . .

"Hay containing not more than 20 per cent moisture at the time of filling the bins came through the storage period with a bright green color. Hay containing appreciably more than 20 but less than 32 per cent moisture at the time of filling turned brown, except for a narrow band next to the outside of the bin. This hay proved palatable for cattle, and was deemed suitable for feed, but due to its loss of carotene (pro-vitamin A) was not as nutritious as the drier hay which had retained its green color. The loss in weight of the dry matter in this brown colored hay was surprisingly little, being less than 5 per cent on the average, and in this respect quite comparable

Upper: Hoisting hay on a Waynesboro, Pa., farm with an electric motor driven power hoist.

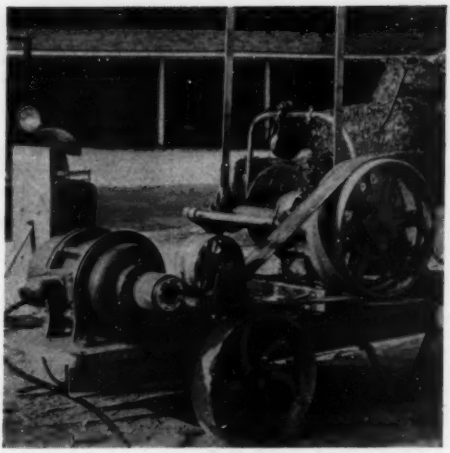
Lower: Unloading hay with electric motor driven hay hoist at Merner Dairy farm near Cedar Fall Falls, Iowa. The hoist and a 3-H.P. motor, which drives it, are installed just inside the small door, and controlled by the man on the load. The rope in the foreground which runs through the pulley between the boys is attached to the pull-back drum of the hoist and returns the carrier and empty sling.

with hay put into storage with 20 per cent moisture or less.

"All experimental lots of hay containing more than 32 per cent moisture at time of storage were so injured by fermentation they were not suitable for feed. Much of the material had a strong, moldy odor, while some of it actually rotted. In certain spots the hay was bleached white similar to fire-fanged horse manure." Results at Purdue University showed that hay with 18 to 22 per cent moisture retained its green color during storage in the ordinary hay mow while that from 23 to 27 per cent mow-burned considerably.

There are certain advantages in chopping hay, one of which is the reduction of the amount of storage space required per ton. Space required for cut hay is not more than one-half as much as that for whole hay, which is an important factor particularly on dairy farms. A reduction in loss due to refusal of animals to eat uncut, coarse, stemmy hays, has been accomplished by chopping such material.

While definite figures are not available on the percentages of hay stored whole or uncut and in the cut or chopped condition, observations in the Corn Belt indicate that the major portion is stored there in the uncut form. This situation means that much hay will have to be lifted into mows for many years in the future, either by hand pitching, use of man and team or mechanically driven hoist. Hand pitching is usually practiced only in cases where barns are too low to permit the use of a fork of slings. The use of a team and driver for pulling up the hay has been the most common practice but these are being replaced by electric motor-driven hoists.

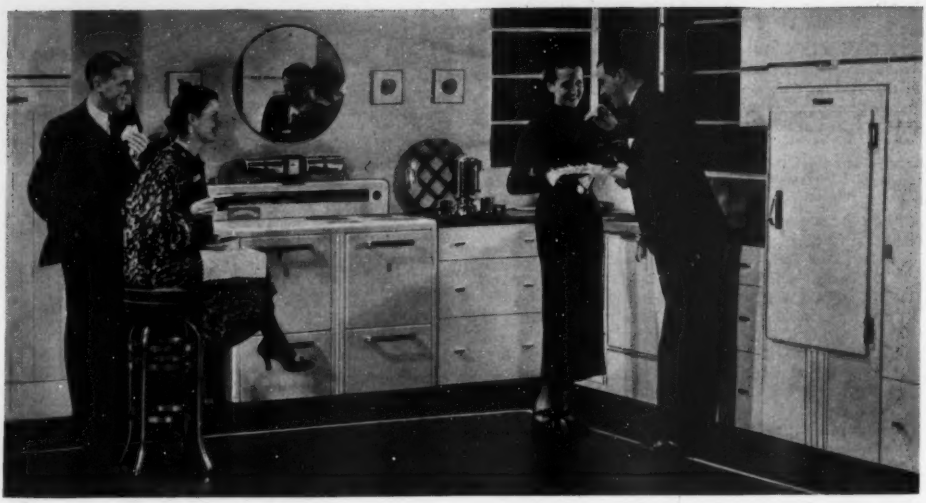


Close-up view of motor driven power hay hoist on farm of Chester A. Lyons, Waynesboro, Pa.

Some farmers have built their own hoists and descriptions of home-made hoists are included in Bulletin 255 of Oregon State College and Bulletin 139 of Washington State College. Good commercial hoists are available, some of which may be secured with direct motor drive. Hoists should be equipped so that the brake acts instantaneously and operation should preferably be made possible from the load. A pull-back device

(*Continued on page 26*)

Straw received from the stacker fan of the threshing machine is chopped and blown into the barn for bedding on the James Farms, Fort Atkinson, Wisconsin. The chopping machine is driven by an electric motor, operated without an attendant, although one man was used in the barn to handle the blower pipe.



WHEN A BRIDE COOKS

By VERA B. MEACHAM

WHEN a bride cooks, and most brides do, of course, her kitchen stove should be as modern as her trousseau. Will it be? Sometimes. And sometimes it takes a bride a year, or five years, or even ten, to recognize the importance of the cook stove in her new home.

To be sure you don't hear folks going around nowadays trying to befuddle a girl with that highly questionable maxim that the way to a man's heart leads by devious and circuitous windings through his stomach. But whatever she thinks of that, any wife learns soon enough that the way to a successful marriage is smoother if it is paved with three square meals a day.

And you can't get meals without a cookstove. Not in our country and for our men folks. Which brings us, as no doubt you expected it would, to the idea of cooking those meals with electricity.

And why shouldn't it? Electricity is the newest of all fuels for cooking food, and already many of us think it the best, too. It is the easiest for any woman to use because it does not have to be carried about and fed to the stove; because it does not have to be watched; and because it can be turned off, just shut off right then and there, whenever she is through with it.

It does not have to be watched because it is accurately controlled by switches and thermostats. If you are a bride this June, you had better look upon that automatic control with more than a casually approving eye for it is those controls for electric fires that help make good cooks of brides.

Perhaps you've had a vague notion that any stove with a fire in it cooks all right. If you have, the chances are that some one else used to watch the fire for you. For if you have grown up with a wholesome respect for cookbooks, and a shrewd appreciation of good recipes, good materials, and accurate measurements, you know that the temperature of your oven, and the time of your baking are as important as butter and eggs in the results you get.

Electric stoves give you complete control over your fire. For the oven you have only to set the pointer on your thermostat to the temperature you want, and turn on the switch. The current will stay on until the oven is as hot as you want it, then the thermostat will turn it off. When the oven cools a little, on will go the current again. When it is hot enough, click—off it goes. You do not have to stoke the stove, or rattle the dampers back and forth. You do not even have to watch it. You just set a pointer on a dial and turn a switch.

Each burner on the top of the stove may give you a different heat, according to its wattage. Then when you turn any one of those burners to medium, you have cut down its heat by half. When you turn the switch once more to the point marked low, you have cut it in two again, that is to a quarter of the first heat. With three burners on the top of the stove, that would give you nine different fires at your finger tips, one of these would surely be the fire you want, since they are designed to give just the right amount of heat for different cooking processes.

You can depend on those fires being always ready when you want them. Cyclone, lightning, or high water, some catastrophe beyond our

reckoning may cut you off briefly from your fuel as it might shut off your gas or float away your wood pile, but in the normal course of events, and most of our lives, thank heaven, are blessedly normal, that fire will be ready for you whenever you turn the switch. You can count on its being the same today that it was yesterday, because a burner is built to deliver just a certain amount of heat at each setting of the switch; it will always have to give you just that amount so long as the current runs through the wires. It is measured heat, controlled by the construction of the range. You will never have to keep an eye on it for fear it may go too fast, you'll never have to coddle it or coax it along.

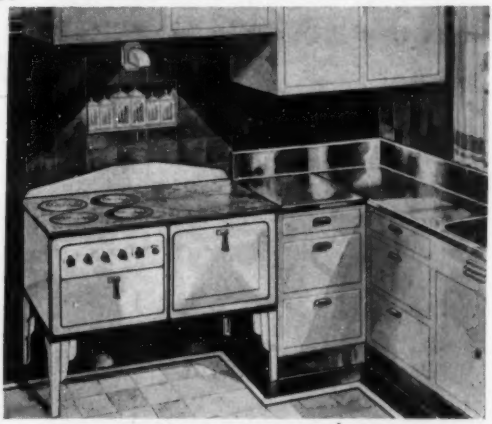
Perhaps not every bride who starts cooking this month will bake bread. But I hope some of you will, for the sheer joy of turning out on the kitchen table a crusty, golden loaf of wholesome bread, for the pleasure of filling the kitchen, now and then, with the smell of fresh baked bread. It saves money, to be sure, and it gives your meals backbone, too, but besides that it is fun to bake bread.

You can find any number of good recipes. If you will follow the one of your choice accurately, you can bake bread perfectly, just by setting your oven regulator to 375 degrees, putting the bread in when the oven is hot, and watching the clock to see when it is done. Some folks like it baked an hour; some folks bake it an hour and a quarter. When you learn how your new husband likes his bread, you can time your baking to get the results that please him, and to get them every time.

You do not have to go round hunting for four leaf clovers or baking day when you cook with electricity. It is not luck that makes you a good cook; it is accuracy, and knowledge, and just simply following directions. There is no guess work about your oven. You set the thermostat, turn the switch, and keep an eye on the clock, not the stove. Or, if you do not want to have the time on your mind, you can set the minute minder on one of those new ranges to ring a little bell when the cooking time is up. If you are the sort of bride who has a tendency to forget when you put the potatoes on, or the cake in, this minute minder may save you many a meal while you are learning the gentle art of getting everything ready at once.

Electricity Simplifies Cooking

When a bride cooks with electricity, she is never really tied to her kitchen or her kitchen stove, not even while dinner is cooking. Electricity can be so easily and so accurately controlled that a timer on the range will both turn it on and turn it off for her. She can prepare her food and put it on a surface burner or stow it away in the oven. Then she can set the clock to turn the current on in time to get that



Cooking corners for bride's kitchens.

food cooked for breakfast or dinner as the case may be.

With a dinner in the oven, a salad and a dessert in the refrigerator, she can set the table and shut the kitchen door behind her. Perhaps she will just be going out to work in the garden; perhaps she will be driving a horse on the hayfork; perhaps she will get out the brand new car and spin off to town. In any case supper will be ready on time.

She can even bring his folks home with her, knowing that she can lead them into the house, and nonchalantly refusing all offers of help, set before them meat so crisp and tender, vegetables so appetizing, that her husband will well nigh choke with pride as he serves them—a salutary experience for all new husbands—authorities agree.

At any rate, what I was going to say is that a fuel you can control automatically by clock as well as by hand, gives new kitchen freedom to this generation of brides.

That is an emancipation long overdue. Just a little while ago I read in our local paper in one of the allegedly funny columns about a puzzled man whose wife had just been taken away to an asylum.

A neighbor was trying to console him, but he only shook his head piteously. "Why John, I can't think where she could have caught it. She hasn't been out of this kitchen in fifteen years."

Then just to please husbands of the brand new brides, we might point out that electric cooking is safe. The fuel is not stored about the place anywhere; it does not burn with a flame that may get out of control; it does not throw sparks up the chimney.

It is made for your wife on the instant she turns the switch on her stove; it comes into your house over wires insulated and protected; it is used in a stove built to safeguard it in every way, and to make the use of that heat from a glowing wire absolutely safe for the cook who uses it, and the kitchen that houses it.

There is nothing to blow out, nothing to watch or worry about. There isn't any flame to catch a loose sleeve, to blow against a flapping dish-towel, to lick at a blowing curtain.

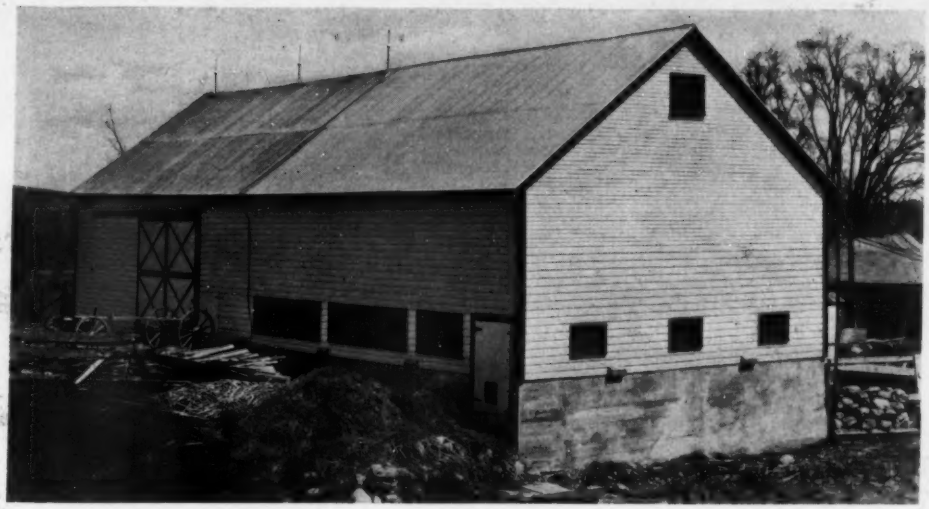
There is just heat. Heat in a coil of wire on the top of the stove or heat shut up in a thick walled oven. She needs no matches to light a fire, so no one can leave them lying around for the cat to knock off and set a-light. There are no fumes, and no gases. There is just heat, pure, fast heat whenever your wife needs it.

When a bride cooks in a brand new electric kitchen today, the stove itself is really clean. It is covered with porcelain enamel, smooth and glazed like a china plate. If it has legs, they are enamel. If it has a cabinet with ovens and drawers below the cooking top, that cabinet is enamelled too.

There is no reason why it shouldn't be clean for it does not have to burn up any fuel to give her heat. It has coils of wire to carry the electricity, and when she turns a switch that electricity flows, and the wires get hot. That is all there is to building a fire.

There is smooth sailing ahead when a bride cooks with current.

Top: Setting the time-keeper.
Center: Paving the way to successful marriage.
Bottom: When a man marries he may reasonably expect to cook now and then.



Exterior view of barn showing location of vents.

WHY BARN VENTILATION PAYS

By D. E. BLANDY

I ONCE had an acquaintance who paid $3,000 to have a sag placed in the roof of his new home. The architect whom he employed was most enthusiastic, as it would give the house "that old appearance." The carpenters had considerable trouble in making the center of the ridge lower than the two ends, which you can well imagine caused considerable difficulty to the roofers. However, when the job was done, the owner felt that his money was well spent, and even today shows this bit of thoughtfulness to his friends with considerable pride.

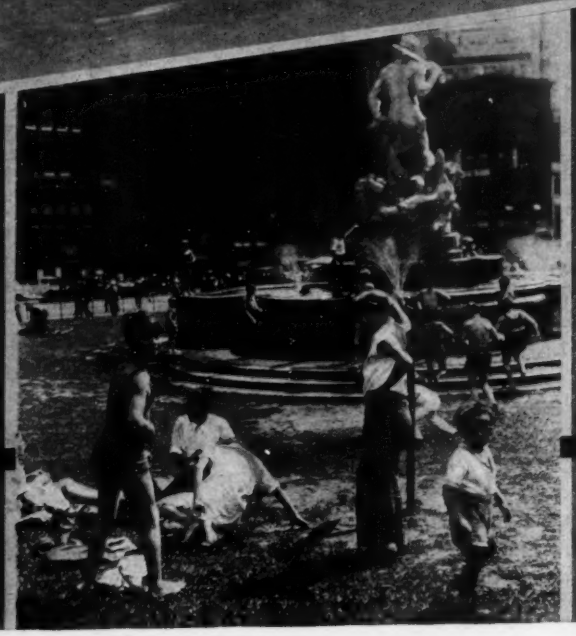
I told this story one day to Dr. Kenneth Shaul, Cobleskill, N. Y., and was rather surprised that he did not consider it as ridiculous as I did. In fact, he said "I'm doing the same thing to my barn, only I'd rather have the ridge row as straight as the back of one of my best Holsteins."

Now Dr. Shaul had about 63 milking cows, among which were many prize winners, and I knew that when he associated the ridge of his barn with the cows he was really serious about the matter. To make the point clear, he took me to the hay mow. It was a cold day and you could clearly see that the moisture rising through the hay chute from the stable below was condensing on the rafters and, sure enough, they were slowly taking that "sway back" formation which meant heavy repair bills some time in the future.

In addition to this problem, the Doctor realized that if he double-boarded his barn to cut down severe changes in barn conditions, due to sudden drops in outside temperatures, he raised the humidity, due to lack of air change. His choice then had been between two evils: low production because of high humidity, or even lower production with a sudden drop in stable temperature. He had chosen the lesser of the two, that of high humidity. It had always been his intention to have a regular commercial ventilating system installed. He gave me two reasons for not doing it. When he had the money the mow was full of hay, making the installation both expensive and difficult. When the mow was empty it was spring and he was either too busy or had better use for his money. Besides, who needed a ventilating system in the summer with the doors and windows open? An investment of $20-$30 per head for a ventilation system had always seemed pretty steep. Slanting windows were cheap enough but they gave a draft on the cows' backs and did not eliminate the moisture laden air.

I had heard of the Fairbanks-Goodman system of ventilation and went to the New York State College of Agriculture at Ithaca to secure more information from the folks who had developed it. I found it to be simplicity itself. It consisted of inexpensive, homemade intakes, which any man who can use a saw and a hammer could put together in a few hours. These were located every 12 or 15 feet around the side walls of the stable, through which air is allowed to enter and splash upward against the ceiling. The air, being cold, fell along the wall to the stable floor. The cow is a miniature furnace and, because she is warm, the heat rises above her. This gives two columns of air moving in opposite directions, one falling along the side wall and the other rising around the cow. This naturally results in the air moving in a circular direction, thus mixing the fresh air from the outside with the warm air of the stable. Inasmuch as this air is intimately mixed together, the

(*Continued on page* 18)



BATHING AROUND THE WORLD

Upper left: An old swimmin' hole in Bali, Dutch East Indies, where going in swimming in public places is by no means immodest. Bathing is popular on the island, and no wonder—it is situated very close to the Equator.

Left: Some New York City boys preparing for a swim at the base of a fountain in City Hall Park.

Upper center: Bath tubs are peddled similarly to vegetables in Paris, France—direct from the pushcart.

Center: Clothes are eagerly cast aside as the boys go for a plunge in the old swimmin' hole.

Lower center: Convenience and cleanliness govern the design and installation of the modern bath room.

Upper right: Bathing ghats of Benares, India, known as the holiest spot on earth. 25,000 to 100,000 bathe in the Ganges River at one time, depending upon the importance of the religious holiday.

Lower right: A large wooden tub serves the bathing requirements of this Japanese maid.

Barn Ventilation

(*Continued from page* 15)

only problem now is to remove a certain amount of it, in order to give room for more air to enter from the outside. The air might be exhausted by flues or electrically operated fans.

The upshot of the matter was that Dr. Shaul furnished a carpenter and some lumber and I got two fans which would exhaust approximately 60 cu. ft. per minute per head. It didn't take long to install the outfit. The pictures show how simple it was to build the intakes. When we got the job done, the stable was perfectly ventilated for a cost of less than $3 per head, or 1/10th the price of a commercial system.

Choosing and Installing Fan

There are a few things to remember about choosing the fan and installing it. The fan will have to be well built of non-rusting material and should have a wind break located outside to prevent the air blowing directly on it. By locating the fan within a foot of the floor there is always a large reservoir of warm air in the upper portion of the stable to keep it warm in the coldest weather.

Wind breakers or baffles are needed on the intakes located on the west and north side of the barn to prevent the air blowing directly into them. It is surprising to note the amount of dirt which the fans removed from the stable. Some of this accumulated on the blades of the fan requiring cleaning every now and then to hold up their air removing capacity. Although the men said the stable was colder, I couldn't help noticing that after a while they wore less clothing because they did not have that cold, clammy feeling which comes to those working in wet barns. It must have improved not only the health of the animals but prevented a great many colds among the men, as clothing damp from perspiration will dry more quickly in a dry barn than in a wet one. Best of all, we know at least one barn which will not have that "sway back formation."

Schaenzer With C.R.E.A.

On April 1, J. P. Schaenzer assumed his duties as Assistant Director of the Committee on the Relation of Electricity to Agriculture. For the present, Mr. Schaenzer will be located in Washington, D. C., but after June 1, he will be located at the Committee's headquarters office in Chicago.

Mr. Schaenzer graduated from the College of Agriculture, University of Wisconsin, in 1921, where he majored in Agricultural Engineering. Following this, for eight years he taught Vocational Agriculture in South Dakota and Wisconsin high schools. For five years he was Project Director of Rural Electrification work at the University of Wisconsin, where he carried on an extensive program of extension, teaching, and research work in the rural electrification field. Following this work, Mr. Schaenzer devoted some time as an agricultural specialist in the Soil Conservation service for the Federal Government, where he assisted in formulating a five-year program for erosion control on a project near La-Crosse, Wisconsin. He then became Agricultural and Irrigation Engineer with the Federal Power Commission, located in Washington, D. C. In this connection Mr. Schaenzer prepared a comprehensive report on rural electrification in the United States which included a potential analysis of the rural electrification market.

For the past three months, Mr. Schaenzer has been Chief of Electrical Installations, Architectural and Engineering Planning section of the Resettlement Administration, which position he leaves to assume his new duties.

Impression

Few people have not been victims of a wrong impression, perhaps innocently made.

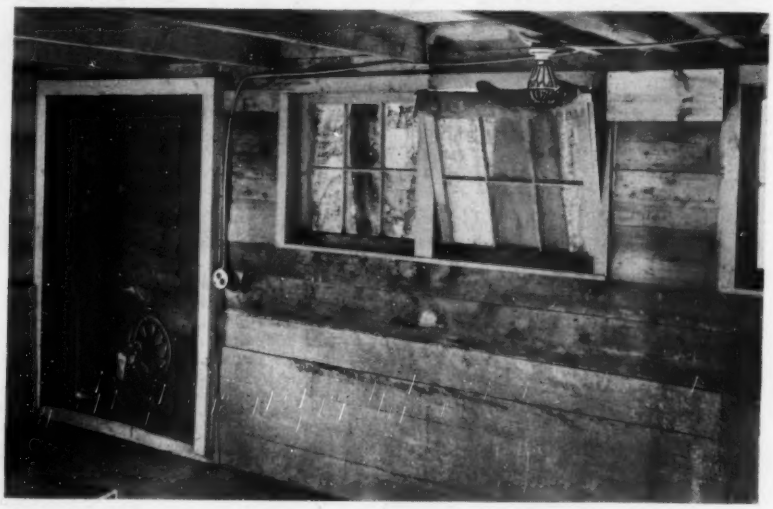
A well-known writer visited a jail to take notes for an article on prison life. On returning home he described what he had seen, and his description made a deep impression on the mind of his little daughter.

A week later the writer and his little girl were in a train which stopped at a station near a gloomy looking building.

"What place is that?" asked a passenger.

"The county jail," answered another promptly.

Whereupon Mary embarrassed her father and aroused the suspicion of the other passengers by asking in a loud, shrill voice, "Is that the jail you were in, Daddy?"

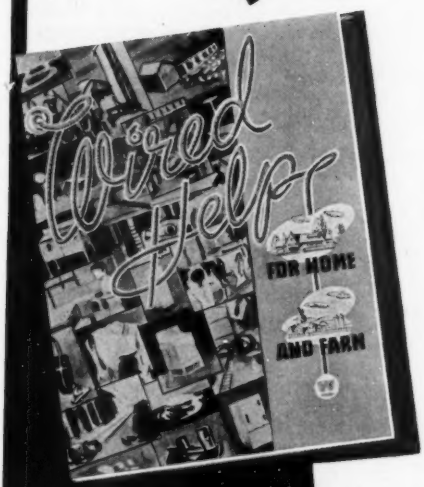


Vent outlets near ceiling admit fresh air, while fan near floor discharges air from within the barn.

Wired Help

A VALUABLE BOOK ABOUT ELECTRICITY ON THE FARM

FREE



● It contains diagrams which point the way to best results from electrical installations. It explains how electricity is made available to the farm. It describes jobs made easier by electric motors. It illustrates special applications of electrical equipment —in the home . . . dairy . . . poultry house . . . greenhouse . . . and orchard.

This book reflects half a century of electrical experience by a company which originally developed the transmission of electrical energy over long distances, from city to country and which maintains a well established dealer organization for the distribution of electrical products needed for obtaining the fullest benefits from rural electrification. J 99344

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Conducted by
GAIL MEREDITH

EASY ICES

NOW is the time, if there ever was one, when something cold, and smooth, and sweet brings meals to a happy ending. If you have an electric refrigerator at your house, it is easy to serve chilled or frozen foods most any day.

I say it is easy, but I do not mean that it does not require as careful attention to method, as strict following of directions, as any other food preparation. In our first enthusiasm for these trouble free desserts, we used to imagine we could mix up most anything, pour it into a tray and it would come forth a delectable dish for dinner. Sometimes it would, and sometimes it wouldn't. That discovery sent a goodly number of folks who work with foods straight out to their laboratory kitchens to try out this recipe and that, this method and that in the effort to find out why Sarah Ann's custard became a heavenly ice cream and Rose Marie's was mush.

It was sometimes a question of sugar; it was sometimes a question of mixing; it was, now and then, a question of temperature in the box. At any rate the remedies are at hand, so if you have had any trouble with making ice cream at your house, you can check your methods with these recommendations for the reason.

In the refrigerator book put out by the Delineator Institute, Miss Pennock has tersely summed up her experience like this.

"If you want the best results, chill your mixture well before freezing."

And this means, I gather, having the bowls used for mixing chilled before you begin, having the beater in the refrigerator for a while before you use it, and if there are two mixtures, or three, having all of them thoroughly cold before you put them together. One good cook insists that this is particularly important when whipped cream is used.

"Do not try to freeze pans of water at the same time you freeze desserts," Miss Pennock goes on. "Nor should you open the doors any oftener than you can help. Plan to do your freezing after you have completely chilled everything in the box. You can't expect to make ice cream if you have just added a lot of warm food to the refrigerator."

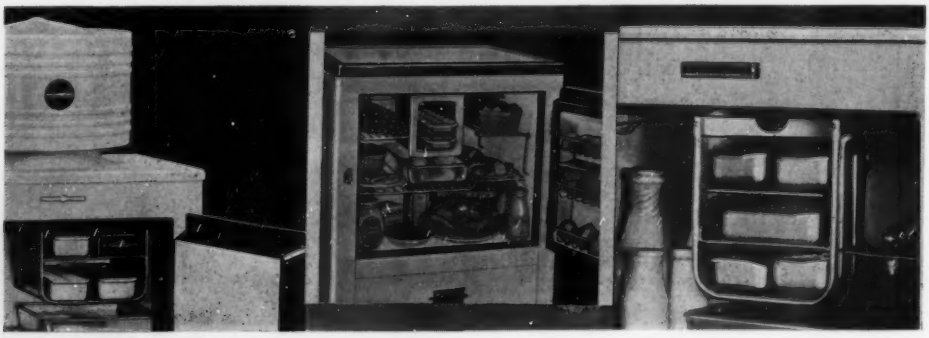
From another laboratory that studies these frozen delicacies, the laboratory in a big company where refrigerators are made, comes the direction, "Make all measures accurate."

This seems to be particularly true of the sugar used, because too much sugar actually lowers the temperature at which a mixture will freeze. A good recipe will probably call for no more than one part sugar to four parts liquid, these experts contend. This, they say, is sweet enough to taste good, but not too sweet to prevent freezing.

Speaking of sugar, some people prefer to use powdered sugar if the mixture does not have to be cooked, and granulated sugar when it does. Some writers recommend using part sugar and part corn syrup for sweetening. Using the syrup seems to improve the texture of the ice cream. Most mixtures will freeze more smoothly, avoid being icy, and melt more slowly on the plate if they have a little gelatine. The gelatine is used in the proportion of one-half to one tea spoon to each cup of liquid.

Folks in town who must buy cream sparingly in half pint bottles, often substitute evaporated milk for the cream any recipe calls for. It is not advisable to do this in delicately flavored creams if you mind the taste of evaporated milk, but in a dessert with a distinct flavor of its own, it is a successful substitute.

If you are ever short of cream, you may want to try it. To use it, put a can in water and boil for

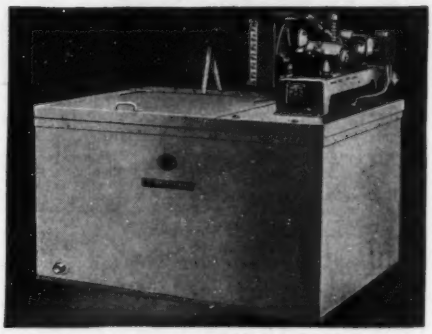


Pneumatic Water Agitation in McCormick-Deering Milk Coolers

•

The New Way to Cool Milk Fast

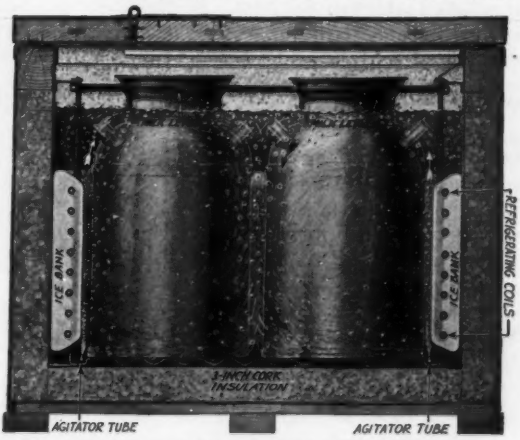
SUMMER MONTHS create a serious problem in the handling of milk—but not for the owners of McCormick-Deering Milk Coolers. They put the milk cans in the cooler and in one hour or less the milk is cooled to 50 degrees or lower and kept at that temperature automatically, regardless of weather temperature.



The McCormick-Deering Milk Cooler — manufactured, assembled, and tested *complete*, at the factory.

The pneumatic water agitator, ***exclusive with McCormick-Deering,*** brings about this fast cooling. A small quantity of water poured into the top filler hole starts the agitator pumping air to the pipes at the bottom of the box. Agitation continues for approximately an hour and a quarter, after which the water action automatically stops.

The McCormick - Deering Milk Cooler is simple, compact, and easy and economical to operate. It is built complete (both box and compressor unit) by **International Harvester**—and backed by the famous Harvester service. For complete information on this new milk cooler, ask the McCormick-Deering dealer.



This cross section of the McCormick-Deering Milk Cooler shows how the constantly rising bubbles force the water to wash over the ice bank and to circulate all around the cans. An automatic temperature control maintains a 3½-inch ice bank and uniform water temperature. The box of the McCormick-Deering is lined inside and out with heavy galvanized rust-resisting steel and insulated with 3 inches of the best-quality cork. Copper refrigerating coils mounted on galvanized steel encircle the inside of the box.

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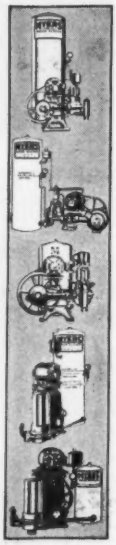

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10-20 minutes. Cool, and then put it in the refrigerator to become thoroughly chilled. Have both the bowl and beater cold, too. Then you can whip the milk as you would cream. If you are beating it with an electric beater, keep an eye on it, for it will be done quickly, and you do not want it overbeaten. It will go back to milk.

Then in addition to these precautions, remember, so these experts warn us, not to whip the cream too stiff. It should be fluffy, but still thin enough so it will pour out of the bowl. The egg whites, on the other hand, should be beaten quite stiff.

If you are using fruit or nut meats, they should be cut in very fine pieces, crushed, or put through a sieve. If you have ever encountered a chunk of frozen fruit in a cream you thought you had prepared most carefully, you know why this is so.

You must drain all fruits, too, because extra moisture gives you long icy crystals through your dessert.

Heavy mixtures need no stirring during the freezing. You insure their fineness and smoothness by the richness of the whipped cream, by the custard base, or by adding beaten egg whites made into a meringue by the addition of one tablespoon of sugar to each egg white used.

The latest recommendations I can find for thin mixtures, ices and sherbets, say they should be frozen until solid one inch from the edge, then beaten smooth with a wooden spoon. They are not

left out of the refrigerator long enough to melt, and the one stirring is enough.

Since you want the mixtures to begin freezing as soon as possible, it is better to set the control to fast freezing.

They are all simple solutions to the problem of a good dessert, aren't they? Simple to understand and to follow. If you heed them, you can pick up recipes everywhere, on the air, in your favorite magazines, in advertising booklets, and you will find, I am sure, that your refrigerator makes good ices easy.

Bridegroom

If a groom fails to put in appearance for the marriage ceremony, be charitable in judgment. The real seriousness of marriage may have just dawned upon him.

The bride appeared, but not the bridegroom. The clergyman and the woman, silent and embarrassed, waited in the church from one o'clock until three. Then they departed.

A week later the woman wrote to the clergyman again, appointing another day at one o'clock for the ceremony. But again the groom failed to turn up.

Two o'clock struck, then three. And then the bride broke the silence with a fierce ejaculation.

"Drat him!" she cried. "'Tain't his trousers this time, 'cause I bought him a pair."

ON THE AIR

Conducted by JEROME J. HENRY

Ed Wynn and His Old Shoes

ED WYNN would rather part with anything other than the old shoes he's been wearing for nigh onto 30 years. Perhaps the shoes bring him luck. Back in 1907 he bought them for five dollars. To maintain a pair of shoes over a period of several decades costs a lot of money, according to Wynn. The comedian has spent more than a hundred times their original cost to keep them in "wearing condition." The shoes, however, do bring him luck. At least so he thinks. The experience substantiates the old saw that "it isn't the original cost but the upkeep," and the habit hardly seems worth advocating.

• • •

Lum Wants Daughter on Radio

RADIO, stage and screen performers, vividly remembering their own early struggles to get a start in the entertainment world, frequently voice the hope that their children will enter less spectacular occupations. But not so with Chester Lauck, the Lum of Lum and Abner.

Lauck thinks radio is a fine occupation indeed, and hopes that his two daughters—Shirley May, 7, and Nancy, 3—will develop the inclination and ability to be radio stars.

Shirley May already has made a start, but as a critic rather than a performer. She listens intently to all her father's programs, and doesn't hesitate to voice her likes and dislikes, either. Lum and Abner are heard daily, except Saturday and Sunday, over NBC stations.

• • •

Double Life of Gale Page

THE double life which Gale Page has been leading was exposed some time ago. For some two years her radio associates have known her as Gale Page, a charming young singer who preferred to be called something other than a "blues singer."

But truth, crushed to earth, shall rise again, and now comes the fact that Gale Page is only an alias and that the young lady herself is the socialite daughter of a bank president, the wife of a Chicago banker, and a member of the Junior League.

Gale adopted the present monicker when she went into radio, not because either her husband or her parents were opposed to the idea of a public career but because Gale herself wanted to rise or fall strictly on her own merits.

Gale says she likes to manage her home, but she also likes to sing. So she does both. It was during a visit to her home in Spokane that she first faced the microphone. She had to get up every morning at 6 o'clock to do it too, for the program was designed for breakfast listeners. Then she returned to Chicago and in October, 1933, began singing over KYW. Two months later she came to NBC and within two weeks was signed for her first sponsored program.

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and MAKES MONEY for YOU
24 Special Features

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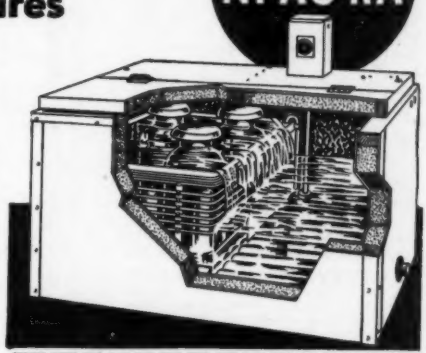

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The METAL LATHE in the Rural Workshop

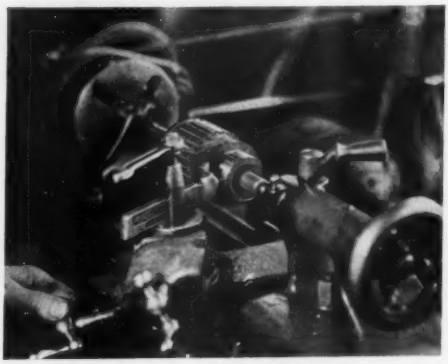
By L. M. Roehl
and
H. Clough

IN these times with all the modern household labor saving devices used in the house, the farm workshop, and rural school, the electric motor is one of the most important means for creating motion and power.

They range in size from a small motor used in vacuum cleaners, washing machines, etc., to the larger ones for shop drive or filling silo.

When a motor starts going bad, it is generally found that the brushes in the motor have worn down. This causes sparking and also a wearing down of the commutator. The motor needs to be taken apart and cleaned and new brushes installed. The only way to repair the commutator is to turn it down perfectly true and smooth, which job requires the use of a metal lathe.

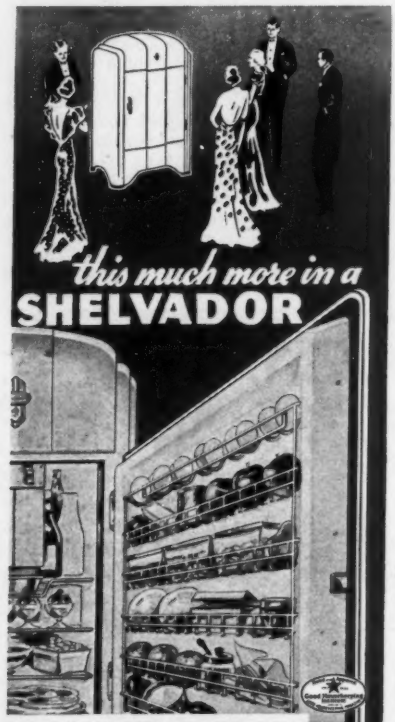
First take the armature and clean all the dust and dirt from it by means of a good, clean paint brush; then make sure that there is no dirt in the center holes of the armature shaft. A lathe dog is used of the correct size to fit the shaft, but before putting it on the shaft a piece of sheet copper is wrapped around the shaft so that when



Turning down the commutator on the armature of a motor.

the screw is tightened in the lathe dog, it will not wear the shaft. The shaft is then placed between lathe centers and you are ready to turn down the commutator. This work is done with a diamond-pointed cutting tool, the nose of which is slightly rounded so that it leaves a smooth surface after going across the commutator. If a pointed tool were used, it would leave rings around the commutator which would need to be removed before putting back in the motor. Be sure not to run the tool where the wires are soldered in the commutator or cut the wires which will then need to be resoldered or replaced. After you have turned off enough of the surface of the commutator to take out all the flat spots, take a piece of No. 00 sandpaper and hold it on the commutator to polish it. Then put a few drops of machine oil on a rag and hold it against the commutator and you will have a surface that is as smooth and bright as new.

If the motor has a tendency to wear the brushes quite frequently, it is caused by the mica between the segments on the commutator. This needs to be cut down. It may be done by the use of a hacksaw blade. The set in a hacksaw blade makes a cut that is wider than the thickness of the mica in the slots. The hacksaw blade is ground on both sides on an emery wheel to the same thickness as the mica. In using the blade, one needs to be careful not to cut or scratch the copper. After cutting down the mica in all of the segments, the shaft is put back in the lathe and finished by smoothing with standpaper and oil.



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ELECTRIC REFRIGERATORS

What's New

Reviewed by T. E. HIENTON

Names and addresses of manufacturers of the articles described in this column will gladly be furnished upon request. Address your requests to What's New Department, ELECTRICITY ON THE FARM, *24 West 40th Street, New York, N. Y.*

Feed Grinder

Grinding green feeds right out of the field or wet fodder, without clogging, is one of the advantages of a new electric feed grinder. This feature is in addition to the claimed ability of the grinder to handle all sorts of dry feeds rapidly and economically. It grinds and mixes in one operation thus making it possible to introduce minerals or other food elements along with the grains and roughage materials. The manufacturers assert that alfalfa, maize and heavy fodder are easily handled with minimum power requirements. The machine is sturdily constructed for long life.

Combination Electric Sterilizer and Water Heater

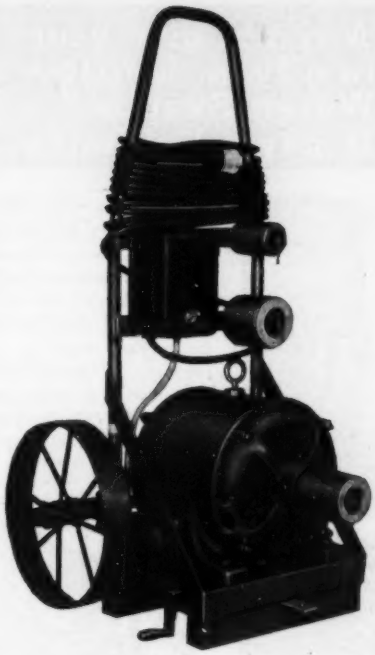
Washing and sterilizing dairy utensils is a twice-a-day chore on farms where milk is produced and in plants where milk is assembled in bulk and distributed at retail. Electrically heated equipment of this kind has been increasing in favor with the new developments and adoption of lower rates for such electrical heating applications.

A combination electric sterilizer and water heater is the latest addition to the line of an eastern firm which has a list of electric water heaters and sterilizers. This new unit is equipped with heating elements for 115-volt alternating current. An automatic 1-hour time switch controls two 500-watt heating units for sterilizing and a 1250-watt unit for water heating in such a way that only one operation can be carried on at a time. The water heating compartment has a capacity of three gallons, while the outside dimensions are 40½ inches long, 24½ inches wide (including spigot) and 38 inches high.

Electric Lawn Mower

Labor involved in pushing the lawn mower, which may not seem terribly heavy early in the day, is doubly heavy if it comes, as it usually does, after a day of hard work and after the chores have been done. A mower driven by an electric motor relieves the operator of most of the labor involved.

An electric lawn mower driven by a 110-volt,



Especially Developed
FOR FARM WORK

You can move this portable, easy-wheeling electric motor power unit to any location—quickly set it up with the same rigidity as a permanent installation—and put it to work doing many of the hard jobs that make farm life a drudgery when they are done by hand.

Built in 3, 5 and 7½ Horse Power sizes—for Single and 3-phase Current... Write for full information.

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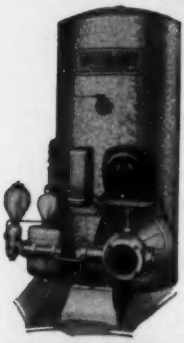
MOTORS
UP TO 600 H. P.

Why not give your family a Uniflow Water System?... It pays dividends



Own a private water system that pays you dividends—Uniflow. Boost milk and egg output, save a yearly 50-ton water hauling job, enjoy better living with conveniences that water on tap permits. ***Uniflow Shallow Well Pumps as low as*** **$40.** ***Deep Well Pumps from*** **$80.**

Uniflow a 15-year-old pump builder guarantees them. ***Write for free catalogs.***

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Water Systems
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THEY WORK IN RAIN

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Save that constant expense and labor of sprays. . . . Durobar Screens last for years.

The First Cost the Last - No Work - No Worry - No Servicing

Get The Moth Or Beetle With Durobar AG PANELS

Save your orchard or garden crop without sprays. Once installed, no further expense. Get a 100% perfect crop and a paying investment. Installation specifications and placement plans furnished FREE.

Write for circulars and prices. Start now. Get the early fly or moth. Write today to

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Dept. E-F 4
Chicago, Illinois

¼-horsepower motor has been announced by the manufacturers of a mower which has been equipped for power drive for many years. The mower is equipped with ball bearings on the reel as well as

the drive wheels. The five vanadium tool steel blades have a cutting width of 18 inches. Motor controls are located near the handle and may be operated by finger tips. Electric cable to the motor is taken up or played out, as needed, by an automatic device located on the mower.

Hay in the Barn

(*Continued from page* 11)

to return the fork or sling to the load mechanically is necessary particularly in long barns. This can be done by use of a weight or by a pull-back drum attachment on the hoist itself.

Motors required for driving hoists will vary from 2 to 5 horsepower in size but the selection will frequently depend upon demands of other machines, which the motor is to drive, rather than on the hoist. The overhead cost of a 3 or 5-horsepower motor which operates a feed grinder will be reduced by using it to drive the hay hoist during the haying season. The actual time spent in hoisting the hay will not be less with an electric motor than with a team but total time spent in unloading may be less because of time spent in starting and turning the team while on the fork. Records from Oregon State College indicate a use of ⅓ kilowatt-hour per ton of hay hoisted.

New 1936 Model
SOUTH BEND LATHE
$75 LESS MOTOR DRIVE
Write for details on this 9 in. x 5 ft. Workshop Precision, back-geared, screw-cutting Lathe. Made in 8 different drives, 4 bed lengths. Easy Payment Terms arranged over extended period of time. Complete information on request.
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WEIGHS 310 Lbs. Crated
SOUTH BEND LATHE WORKS
MADISON ST. SOUTH BEND, IND. U.S.A.

Questions and Answers

Conducted by R. U. BLASINGAME

Readers are invited to submit questions for discussion in this department.

Charging Car Battery

Question No. 1: *I have an old 5 amp. Tungar battery charger run from a 110 volt a.c. current and use same to charge auto battery in cold weather. Would it be safe to start the car when the charger is in operation. Car battery is six volt.*

Question No. 2: *Also have a 32 volt d.c. generator operated by a gasoline engine that is used to charge auto battery occasionally. Battery is not removed from car. The voltmeter reads about 12-14 volts, and ammeter —8 amperes when charging only one battery. Can car be started safely when the battery is charging? I wish to have the auto starting motor turn over at a higher speed than the car battery alone is capable of producing in cold weather.*

C. A. S.

Answer: Answering your first question, it has been my experience that a Tungar battery charger contains a bulb which is rather fragile. For that reason I would not start the car with the charger in the circuit. The voltage may run too high and burn out the bulb.

With regard to your second question, about the 32 volt d.c. generator, will say that the car may be started with this type of charger but 12 to 14 volts is rather high for a six volt battery to withstand. To reduce the voltage under these circumstances you might place in the line some other resistance to protect the battery.

Power for Garden Tractor

Question: *I would like to build a garden power cultivator, the power to be obtained from a ½ h.p. electric motor. How many batteries would it take to run this motor approximately ten hours a week?*

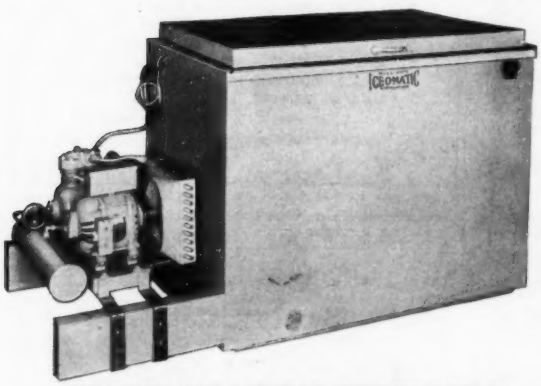
What is the difference between a Ford magneto and a generator? Is it d.c. or a.c.?

J. V-R.

Answer: I do not believe that you will be successful in building a garden tractor to be operated by a ½ h.p. electric motor, the energy for which to be supplied by storage batteries. The 32-volt plants have a battery made up of sixteen cells. Each battery supplies two volts and the amperage depends upon the size of the battery. A large battery will supply more ampere hours than a small battery. The ¾ k.w. Delco plant, for instance, does not recommend that a ½ h.p. motor be operated from the battery. It always recommends that the plant be running in which case the generator helps the battery or in some cases the current is taken directly from the generator.

You would not be successful in hauling around on a garden tractor a battery of sixteen cells, with all of the weight and damage which would

Buy . . .



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World's Largest Specialists in Temperature Control
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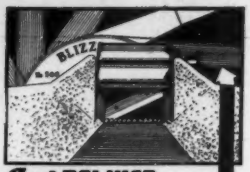
2 JOBS — 1 MACHINE. Hay choping first — silo filling later — both done most efficiently with the NEW BLIZZARD. Not a nut or bolt need be changed. Marvelous! Speedy!



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***And* DELIVER IT WHERE YOU PLEASE! *Any Angle* . .**

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Threshers-Dusters-Corn Shellers

3 SIZES

SMALL SIZE THRESHERS

For Rural Electric Lines 3 to 5 HP Required

YOU GET TWO - BURNERS - IN - ONE WITH

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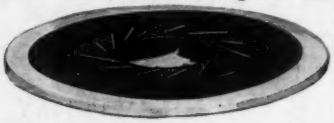
The inside burner alone is right for small pans. Both burners for large utensils. Fit any range, cook faster, make cooking cost less. Practically immune to damage. Ask your power company or local dealer.



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HANDLE YOUR HAY FORK WITH AN IRELAND HOIST

For use with one, two or three phase Electric Motors. Get motor and full data from your local power dealer.

PAYS FOR ITSELF THE 1ST SEASON

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Quick in action with perfect control. Capacity 1200 pounds direct pull. Thousands in use.

Write for Descriptive Illustrated Folder

IRELAND MACHINE & FOUNDRY CO. NORWICH, N. Y.

be done to the batteries by vibration. Therefore, I recommend that you employ a garden tractor equipped with a gas engine.

The difference between a high tension magneto of any kind, the Ford included, and a generator is that the magneto is equipped with a secondary winding and delivers a spark at the spark plug of about 10,000 volts and very low amperage. On the other hand, the generator generally produces current at low voltage and a higher amperage than the magneto.

Front Cover Pictures

The illustrations on the front cover of Electricity on the Farm generally show actual installations and therefore not always ideal set-ups. The picture on our April cover is a case very much in point as a number of our readers have pointed out.

One of our readers, Mrs. H. G. Ashley, Genesee Depot, Wisconsin, explains this quite simply and clearly. She wrote:

> "I have had thoroughly drilled into me the importance of keeping all electrical equipment—and I mean all including equipment as well as connection points and sockets and what not—out of reach of any person in the bathtub. You show a child in the tub and a heater within reaching distance. While I am a firm believer in Electricity on the Farm I still think it had policy to use your April layout for a suggestion for electrical convenience."

You are quite right, Mrs. Ashley, and I hope all our readers will make note of it. In using an electric heater in a bathroom, care should always be taken to place it in such a position that it will not be possible to contact it while at the same time contacting grounded plumbing fixtures, or especially while the skin is wet and therefore offering very low resistance to electric current.

The Editor.

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ELECTRIC SUPPLIES FOR THE POULTRYMAN AND FARMER. Late brooding is safe and easy with the Lyon Fan Unit. Excellent for turkeys and other game birds. Furnishes the correct amount of heat *and air* in all kinds of weather. Write for free catalog on FLY ELECTROCUTORS, ALARMS, Heating and Thermostatic Supplies for Homemade Equipment, etc., Dept. EF, LYON ELECTRIC CO., San Diego, Calif.

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- *First, be sure to study our advertising pages.*
- *For further information, fill out and send us the handy coupon at the bottom of the page, listing the equipment you need and are willing to buy if it helps to make farm life more comfortable and profitable.*

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Animal Clippers	Ironing Machines
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Grind Your Own Feed ELECTRICALLY

Now you can grind and mix your own feed at home, with low cost electric power. W-W Hammer Grinders grind everything, from heaviest roughage to smallest grains . . . quickly, efficiently and at low cost. Poultrymen's Model, illustrated, gives amazing performance with 5 to 7 horsepower electric motor. Seven Models, all reasonably priced; each a high capacity grinder, lets you select just the right size for your needs.

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Especially Designed
FOR FARM USE

Dry, Cold Storage for Bulk Foods and Perishables for Your Own Use or For Market

ESCO Utility Coolers, made in three sizes, have a dozen uses on the farm. They make a real supply of ice (25 to 50 lbs. a day). Can be used to store butter, cream, meats, eggs, fruit, vegetables and other food products, including left-overs from the table.

Special heavy wire shelves for small articles.

View of Model L-14 Esco Utility Cooler showing roomy interior. Note large capacity of shelves. Plenty of space for bulky articles on right.

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WRITE TODAY for free booklet telling about ESCO Utility Coolers for farm use.

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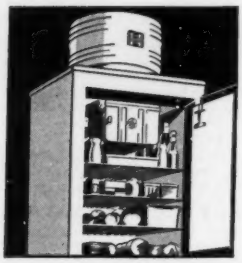

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have the world famous sealed-in-steel THRIFT-UNIT

It gives double the cold and now uses even less current than ever. The only refrigerator mechanism with forced-feed lubrication and oil cooling. These exclusive G-E features mean longer life and lower operating cost. All-steel cabinets in Monitor Top, Flatop and Liftop models.

GENERAL ELECTRIC RANGES

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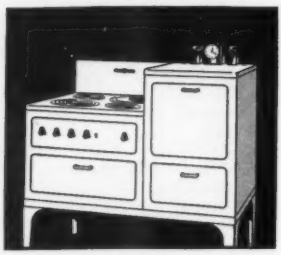

Both surface and oven G-E Hi-Speed Calrod heating units are hermetically sealed and practically indestructible. A dozen General Electric Automatic Range models to select from—all sizes, all prices.

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G-E Milk and Cream Cooling Equipment is unequalled for dependable year-after-year performance and operating economy. It pays for itself over and over in money saved and extra profits earned. A complete line of wet storage, dry storage and bottle storage equipment for every size dairy farm.

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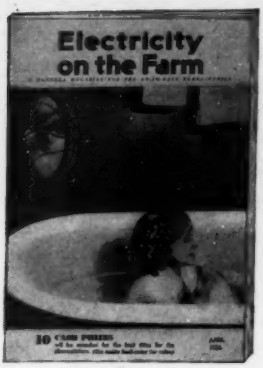

APRIL COVER

JUNE CONTEST RULES

Ten cash prizes will be awarded for the 10 best titles for the picture on the front cover of this magazine.

The first prize will be $20 cash, and nine second prizes of $2 in cash will be awarded.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

Titles should be brief — the shorter the better — and short slogans will be given preferences over rhymes.

All members of the farm family to whom this magazine was sent may submit titles, but each contestant may submit only one title.

Question "A" must be answered.

Entries must be sent to the Title Editor, ELECTRICITY ON THE FARM, 6 North Michigan Avenue, Chicago, Illinois, Before July 1st.

Winning names and titles will be announced in the August issue.

Send your title on the coupon or make out a similar form on a plain sheet of paper or government postcard.

Awards for April

First Prize — $20

"Sit in the warmth and enjoy your scrub,
But don't touch the switch while you're in the tub!"

MRS. CHARLES E. JONES, R.F.D. 1, Kirkland, Ill.

(*See Editorial Note on page 28*)

Nine $2.00 Cash Prizes

"Electric heater doing its duty,
For a smiling little bathing beauty."
MRS. E. A. MURRAY, R.F.D. 9, Box 141, Jefferson Barracks, Mo.

"The electric current warms the air,
Fills the tub, and curls your hair."
MRS. B. L. ROBERTSON, Frankford, Mo.

"Electricity brings the water and heat,
Making 'June's' pleasures a winter treat."
MISS DOROTHY MARSCHKE, R.R. 4, Box 649, Indianapolis, Ind.

"The electric heater's radiant cheer,
Insures summertime baths all through the year."
MRS. J. W. REPLOGLE, Burlington, Ind.

"Electricity for heater, water and light,
Has turned to pleasure our 'Saturday night'."
MISS ESTHER BOOTH, R.F.D. 1, Niles, Ohio.

"Any old time, not just Saturday night,
Since electricity gives us water, heat and light."
MRS. W. S. KREGER, R.F.D. 2, Box 112, Norfolk, Va.

"With electric heater on nearby stool,
Winter's bathtub is a summer's pool."
MRS. ERNEST A. LACK, R.F.D. 3, Muscatine, Iowa.

"Little folks and big folks try this treat,
A luxurious bath, by electric heat."
MRS. U. C. FOSTER, 210 N. Hillside No. 5, Wichita, Kan.

"Electrifying! This pleasant change,
From the old wash tub by the kitchen range."
MRS. CHAS. J. ADAMS, Box 114, Wethersfield, Conn.

My title for the June Front Cover picture of ELECTRICITY ON THE FARM is.....
.....
.....
.....

(a) How has ELECTRICITY ON THE FARM aided you in buying or using Electrical Appliances?.....
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My name is..... R. F. D.....
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Ice is a big help

. . . but modern electrical refrigeration is the better way

Over 300 years ago, Sir Francis Bacon discovered that perishable foods could be preserved by chilling. Since that time, the principle of refrigeration, in order to preserve foods, has become an important factor in living.

The perfection of this idea of food preservation is found in the modern, economical, clean and convenient electrical refrigerator. Today ice itself is but a small part of **complete** refrigeration. The modern electrical refrigerator not only furnishes a supply of ice cubes but it also gives the up-to-date housewife various degrees of cold for all requirements. The whole family profits in food saving and in health protection.

The simple turn of an electric switch brings you this modern miracle just as it brings you ample light, running water and power for dozens of irksome tasks you can do easier, better and cheaper by electricity.

The surprising thing about electricity is its economy. Call on your Power Company or your nearest electrical dealer—they will be glad to show you without obligation how this low-cost farm necessity will actually save you money.

Electricity on the Farm

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